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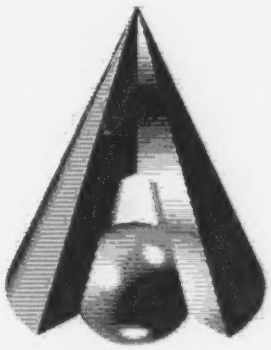
Bosses of Their Own: Are Children of Immigrants More Likely Than Their Parents to be Self-Employed?



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...	not applicable
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^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E}	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

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Abstract

Self-employment has been regarded as an important pathway for many immigrants to engage in the labour market. However, little is known about self-employment among the children of immigrants. Using the 1981 and 2006 Canadian censuses of population and a generational cohort method of analysis, this paper compares the self-employment rates of immigrant parents and the children of immigrant parents when both were 25 to 44 years of age. The focus is on three questions: (1) Are children of immigrants likelier or less likely than immigrant parents to be self-employed?; (2) Are children of immigrants likelier or less likely than children of Canadian-born parents to be self-employed?; (3) Is the generational change in the self-employment rate from immigrant parents to the children of immigrants different from the generational change from Canadian-born parents to their children?

The results show that Canadian-born male children of immigrants had a lower self-employment rate than did immigrant fathers. The decline in the self-employment rate was not unique from immigrant fathers to second-generation men: it was observed also from Canadian-born parents to their children. For both groups, the decline was related to changes in life-course events—longer schooling, fewer marriages, and fewer children. The self-employment rate of second-generation men was higher than that of third-and-higher-generation men; a similar difference was found between the fathers of these two groups. Among women, the self-employment rate increased from immigrant mothers to the daughters of immigrants as well as from Canadian-born mothers to their daughters.

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Executive summary

Self-employment is often considered to be an important aspect of the economic integration of immigrants. Some immigrants engage in self-employment in order to overcome limited employment opportunities and low returns to their foreign-acquired skills, while others enter self-employment as a means to implement their business ideas, gain flexibility, and seek higher earnings. Most studies of immigration and self-employment have focused on first-generation immigrants—that is, individuals born abroad. Consequently, little is known about the pathways to self-employment among the children of immigrants or about the role that self-employment plays in their labour market outcomes. It is worthwhile addressing this issue for the purpose of better understanding the role that self-employment plays in the long-term economic integration of immigrants and that of their children.

This paper examines the levels of self-employment among immigrants and the children of immigrants, including both the second generation (Canadian-born children of immigrant parents) and the 1.5 generation (foreign-born children of immigrant parents). The differences between Canadian-born parents and their children (the third-and-higher generations) are also examined, with a view to providing a benchmark of broader trends in self-employment over time. The analysis focuses on three questions: (1) Are children of immigrants likelier or less likely than immigrant parents to be self-employed?; (2) Are children of immigrants likelier or less likely than children of Canadian-born parents to be self-employed?; (3) Is the generational change in the self-employment rate from immigrant parents to the children of immigrants different from the generational change from Canadian-born parents to their children?

The analysis uses data from the 20% sample master files of the 1981 and 2006 Canadian censuses of population. It is not possible to directly match children with their actual parents by using multi-year census data; consequently, a generation cohort method of analysis is employed. A generational linkage is made by matching a synthetic cohort of parents, identified in the 1981 Census on the basis of their age, immigration status, and presence/age of children, with a synthetic cohort of their adult children identified in the 2006 Census on the basis of their age, immigration status, and the immigration status of their parents. Self-employed workers are defined as individuals who identify themselves as mainly self-employed in their own unincorporated or incorporated business.

The results show that second-generation men had a lower self-employment rate in 2006 than immigrant fathers had in 1981. However, when controls for demographic factors were applied, the self-employment rate was found to be about the same for these two groups. Compared with immigrant fathers at the same age, second-generation men had fewer years of work experience, a lower marriage rate, and fewer children; these factors accounted for second-generation men's lower unadjusted self-employment rate.

This intergenerational change in the self-employment rate and the associated demographic factors are not unique to the second generation: they are shared by third-and-higher-generation men. When changes in socio-demographic factors were taken into account, the generational succession in self-employment rates from immigrant parents to the second generation was about the same as that from Canadian-born parents to the third-and-higher generations.

The second-generation men had a higher self-employment rate than the third-and-higher-generation men. This is consistent with the higher self-employment rate observed among fathers of the second generation than among fathers of the third-and-higher generations. It thus appears that the group difference in the self-employment rate was passed on to sons.

The 1.5 generation men had a higher self-employment rate than that of immigrant fathers. They were also found to have a higher self-employment rate than those of the second-generation

men and of the third-and-higher-generation men when group differences in socio-demographic characteristics were taken into account.

Young women in 2006, regardless of generational status, had higher self-employment rates than immigrant mothers did 25 years previously. This broad increase is consistent with the general trends in women's educational attainment, labour force participation, diversification in occupational structures, and earnings over recent decades. The increase in self-employment from mothers to daughters was slightly smaller among the second generation than among the 1.5 generation and the third-and-higher generations.

1 Introduction

Self-employment is often considered to be an important aspect of the economic integration of immigrants in their host country. Some immigrants engage in self-employment in order to overcome limited employment opportunities and low returns to their foreign-acquired skills in the paid labour market (Fairlie and Meyer 1996), while others enter self-employment as a means to implement their business ideas, gain flexibility, and seek higher earnings (Hou and Wang 2011). Some immigrants come to Canada specifically to be self-employed and have been selected for their entrepreneurial attributes (Schuetze 2010). Self-employed immigrants provide employment for themselves and are often the employers of other immigrants, often those who are less well-educated and less proficient in the host-country language (Hou 2009; Yuengert 1995). Whether by choice or necessity, immigrants tend to have higher self-employment rates than the domestic-born, with this evident in Canada (Li 1997), the United States (Lofstrom 2002; Borjas 1986), and some European countries (Andersson and Wadensjö 2004; Hammarstedt 2001).

The importance of immigrants as a source of entrepreneurial capital is reflected in Canadian immigration policies. Implemented in 1978, the Business Immigration Program is designed to attract entrepreneurs and investment funds as a means of facilitating economic activity (Froschauer 2001; Schuetze 2005). In the 1990s, about 6% to 10% of immigrants landing in Canada each year were admitted under the program (Schuetze 2010), while in the 2000s the share was around 5% (Citizenship and Immigration Canada (CIC) 2010).[1] While an increasing proportion of economically active immigrants are self-employed, the economic outcomes of self-employed immigrants have not been explored as extensively as those of immigrants employed as paid workers (Frenette 2004).

Past studies of immigrants and self-employment have focused on first-generation immigrants. In contrast, little is known about the self-employment activities of second-generation immigrants in Canada (i.e., the Canadian-born children of immigrants). This is because most studies of this group have focused on their educational attainment and their wages and salaries (Georgarakos and Tatsiramos 2009; Gold *et al.* 2006). It is worthwhile addressing this issue to better understand the role that self-employment plays in the long-term economic integration of immigrants and their children.

Using the micro-data from the 1981 and 2006 censuses of population and employing a generation-cohort method of analysis, this paper examines the levels of self-employment among immigrants and the children of immigrants, including both the Canadian-born children of immigrant parents (i.e., the second generation) and the foreign-born children of immigrant parents (i.e., the 1.5 generation). The differences between Canadian-born parents and their children (the third-and-higher generations) are also examined in order to provide a benchmark of broader trends in self-employment over the 25-year reference period. The analysis focuses on three questions: (1) Are children of immigrants likelier or less likely than immigrant parents to be self-employed?; (2) Are children of immigrants likelier or less likely than children of Canadian-born parents (i.e., the third-and-higher generations) to be self-employed?; (3) Is the generational change in the self-employment rate from immigrant parents to the children of immigrants different from the generational change from Canadian-born parents to their children?

While this paper focuses on the difference/similarity in the self-employment rate between generations, a companion paper examines whether some important correlates of self-employment have the same effect by generational status (Abada *et al.* 2011).

1. The Business Immigration Program (BIP) initially included two components: the "Entrepreneurs" and "Self-employed" streams. In 1986, a third stream—"Investors"—was added. In the 1990s, over one-half of business immigrants were admitted as entrepreneurs and self-employed (Schuetze 2010). By the late 2000s, however, most business immigrants were entering as investors (CIC 2010).

The remainder of the paper is divided into four sections. In Section 2, the literature on generational changes in self-employment from immigrant parents to their children is reviewed. In Section 3, the data source and methods used in the paper are discussed. Results are presented in Section 4. Conclusions follow in Section 5.

In addition to the analysis presented in the main body of the paper, descriptive information on the characteristics of parents and children engaged in self-employment and paid employment is provided in the Appendix. This includes comparative information on education levels, Canadian work experience, foreign work experience, and average annual earnings that is not readily available elsewhere.

2 Is there a generational decline in self-employment from immigrant parents to their children?

The first question addressed by this study pertains to the debate in the literature regarding the extent to which children of immigrants share their parents' relatively high propensity to be self-employed. It is not clear *a priori* whether children of immigrants are likelier or less likely than their parents to be self-employed.

Many self-employed immigrant parents start businesses not necessarily for their children to take over but, rather, to provide the financial resources for the advanced education of their children, thus opening up a wider range of labour market opportunities for them (Sanders and Nee 1996). In the American literature, for example, it has been found that Cuban exiles who arrived in Miami in the 1960s and 1970s engaged disproportionately in self-employment relative to non-Hispanic White Americans. The flourishing ethnic entrepreneurship allowed them to establish an economically viable niche in American society. However, the self-employment rate among their children declined by one-half. Many second-generation Cubans entered professional careers in the paid labour market since the accumulated resources of their parents' entrepreneurship afforded them the opportunity to obtain advanced degrees (Portes and Shafer 2007). Kasinitz *et al.* (2008, p. 181) suggested that education and professional credentials may be a preferred route to economic success among the second generation. For these reasons, self-employment may be less prevalent among children of immigrants than among their parents. Other studies also point to a decline in self-employment from the first generation to subsequent generations (Goldsheider and Kobrin 1980), and concerns have been raised to the effect that older small-business owners in Canada, particularly immigrants, have trouble finding successors to take over their businesses (e.g., McLean 2009).

A competing hypothesis suggests an increase in self-employment from immigrant parents to their children. Compared with their parents, the children of immigrants are likely to be more proficient in the official languages of the host country, to have higher levels of education, and to have been educated in host-country educational institutions. These assets may provide them with the skills and information needed to start and operate a business (Sanders and Nee 1996; Kloosterman *et al.* 1999), potentially leading to higher rates of self-employment among children of immigrants than among their parents.

Regarding the second question—that is, whether the children of immigrants are likelier or less likely than the children of Canadian-born parents to be self-employed—competing hypotheses can be developed as well. Exposure to an entrepreneurial lifestyle while growing up, either by living with a business owner or by working in a family business, may increase the likelihood that an individual will become self-employed later in life (Aldrich and Kim 2007). Some studies show that having a self-employed father increases the probability of self-employment among the children of immigrants and the children of non-immigrants alike, although many self-employed children of immigrants are not in the same business line as their fathers (Andersson and Hammarstedt 2010; Fairlie 1999; Hout and Rosen 2000). In a study of business owners in Vancouver, for example, more than half of the sample reported that their parents had been self-employed at some point (Aldrich *et al.* 1998). The same pattern is observed in other settings, including Germany and the United States (Constant and Zimmerman 2006; Dunn and Holtz-Eakin 2000). Since immigrants have a higher rate of self-employment than Canadian-born, the children of immigrants may in turn have a higher rate than the children of Canadian-born parents. Such an expectation assumes that the succession rates of self-employment from parents to children are the same for both groups.

Conversely, if a main reason that immigrants have a higher self-employment rate than non-immigrants is that the former experience more difficulties in the paid labour market, it would be expected that the children of immigrants and the children of non-immigrants would have similar

rates. On average, the children of immigrants in Canada and the U.S. have labour market outcomes similar to or better than those of the third-and-higher generations; this reflects higher levels of educational attainment among the former (Picot and Hou 2010). Thus, to the extent that self-employment is a response to obstacles to paid employment, this "push" factor should be either comparable among the children of immigrants and the children of non-immigrants or weaker among the former.

The third question set out in this paper concerns the possibility that the generational change in self-employment rates from immigrant parents to their children is not unique to this group but, rather, reflects a broader labour market trend. In Canada, the share of the employed workforce consisting of self-employed workers increased from the late 1970s to the 1990s, before stabilizing in the 2000s (LaRochelle-Côté 2010; Lin *et al.* 1999). Several factors may be related to this trend, including the aging of the labour force (Acs *et al.* 1994; Kamhi and Leung 2005; Uppal 2011), technological change and shifts in occupational and industrial structures (Gauthier and Roy 1997; Kamhi and Leung 2005; Statistics Canada 1997), and government policy (Lin *et al.* 1999; Schuetze 2002*a*). It is not the purpose of this paper to systematically evaluate the relative importance of these potential factors in accounting for the overall rise in self-employment. Nevertheless, it is reasonable to expect that factors affecting the overall trend would have a similar effect among immigrant and Canadian-born families. Therefore, it is important to examine whether changes in the self-employment rate from immigrant parents to their children is a unique "second-generation effect" or simply a "time effect" that also applies to Canadian-born parents and their children.

3 Data and methods

3.1 Data

The data used in this study are drawn from the 20% sample of the 1981 Canadian Census of Population and from the 20% sample of the 2006 Canadian Census of Population. These datasets are the only Canadian sources that allow comparisons of self-employment rates by generation over time. Self-employed workers are defined as individuals who identify themselves as mainly self-employed in their own unincorporated or incorporated business.[2] This is a common approach followed in studies based on Census data (e.g.: Fairlie and Meyer 2003; Portes and Zhou 1996; van Tubergen 2005; Yuengert 1995). For the purpose of robustness, trends in self-employment rates are also examined by using alternative definitions (Appendix subsection 6.3). As in most previous studies in this area, institutional residents, unpaid workers in family businesses, and individuals reporting negative self-employment income are excluded, as are workers in agricultural industries.[3]

The focus of this paper is on generational differences in self-employment rates. However, it is not possible to directly match children with their actual parents on the basis of multi-year census data. Rather, the generational linkage is made through matching a synthetic cohort of parents with a synthetic cohort of children. Such a linkage uses information on the following: (*i*) adults' age, adults' immigration status, and the presence/age of children in the 1981 Census; and (*ii*) adults' age, adults' immigration status, and the immigration status of parents in the 2006 Census.

Three groups of adults from the 1981 Census are selected to match three groups of adults from the 2006 Census. First, from the 1981 Census, adult immigrants who were aged 25 to 44 and had foreign-born children aged 0 to 18 are selected.[4] These are the parents of immigrant children who landed in Canada before age 19 (referred to in this paper as the *1.5 generation*). These immigrant children were aged 25 to 43 in 2006, and are identified in that year on the basis of their age, their immigration status, and the immigration status of their parents reported at that time.

Second, immigrants who were aged 25 to 44 and had Canadian-born children aged 0 to 18 are selected from the 1981 Census. These are the parents of second-generation immigrants (i.e., children born in Canada to immigrant parents). These second-generation immigrants are identified in 2006 on the basis of their age (i.e., 25 to 43), their immigration status (i.e., born in Canada), and the immigration status of their parents. Finally, the Canadian-born who were aged 25 to 44 and had Canadian-born children aged 0 to 18 are identified from the 1981 Census. These are the parents of the third-and-higher generations (i.e., children born in Canada to Canadian-born parents). Again, the third-and-higher generations are identified in 2006 on the basis of their age (again, 25 to 43) and the immigration status of their parents. Canadian-born

2. In the Census questionnaire, individuals are asked first whether they are: (1) working for wages, salary, tips, or commission; (2) working without pay in a family farm or business; (3) self-employed without paid help; (4) self-employed with paid help. If they are self-employed, individuals are further asked whether their farm or business has been incorporated. In 2006, 41% of all self-employed men and 27% of all self-employed women in non-farming industries reported having their own incorporated business.
3. The share of individuals with negative self-employment earnings among all self-employed workers was about 3% in 1981 and 6% in 2006. To check the sensitivity of the study's results to the exclusion of these least successful individuals, all subsequent analyses are replicated without the exclusion. The results support the conclusions drawn from the sample excluding individuals with negative self-employment income. Tables are available upon request.
4. These adult immigrants could have arrived at any age. The same is also applicable to the potential parents of the second generation.

children with one foreign-born parent and one domestic-born parent are excluded from the study.

This approach of matching a synthetic cohort of parents with their prospective children is consistent with the method used by Park and Myers (2010) and Smith (2003). This approach facilitates inter-generational comparisons of the self-employment activities of parents and those of their prospective children when they were in the same age range.[5] Given this approach, the analysis focuses largely on individuals aged 25 to 44, although Table 1 highlights broad trends in self-employment among individuals aged 20 to 64.

Table 1

Trends in self-employment rates among individuals aged 20 to 64, by immigration status and years since landing, Canada, 1981 to 2006

	1981	1991	2001	2006
		percent		
Men				
Canadian-born				
Total	9.4	10.1	12.0	11.5
Immigrants				
Total	13.1	15.0	17.0	16.8
In Canada 5 years or less	7.7	9.5	11.9	11.2
In Canada 6 to 10 years	10.5	13.0	14.9	15.0
In Canada 11 to 15 years	13.7	15.2	16.7	17.1
In Canada more than 15 years	15.1	17.0	19.9	19.7
Women				
Canadian-born				
Total	3.4	5.1	7.5	6.9
Immigrants				
Total	5.4	7.6	10.1	9.4
In Canada 5 years or less	3.7	4.6	8.0	6.6
In Canada 6 to 10 years	4.8	7.7	9.1	9.1
In Canada 11 to 15 years	5.9	8.6	9.7	9.3
In Canada more than 15 years	6.0	8.2	11.5	10.6

Sources: Statistics Canada, 1981 Census of Population, 1991 Census of Population, 2001 Census of Population, and 2006 Census of Population.

5. For this reason, individuals aged 25 to 44 from the 2006 Census are included for the purpose of comparing young adults in the same age range but 25 years apart, although strictly those who were aged 0 to 18 in the 1981 Census should be at the 25-to-43 age range in the 2006 Census. The addition of individuals aged 44 from the 2006 Census would increase slightly the unadjusted self-employment rate of the 2006 sample, since age is positively associated with the likelihood of self-employment. However, these individuals' inclusion has little effect on the adjusted self-employment rate, since age is controlled in the multivariate analysis. Alternatively, it would be possible to restrict the sample from the 1981 Census to age 25-to-43. Both approaches produce similar adjusted self-employment rates.

4 Results

4.1 Descriptive information on self-employment rates

Any generational differences in self-employment from immigrant parents to their children have to be interpreted in the context of the overall trends in self-employment in Canada. For this reason, it is important to briefly discuss trends in self-employment rates by immigration status over the 1981-to-2006 period (in Appendix subsection 6.2, changes in the selected characteristics of self-employment are also discussed). From the descriptive statistics in Table 1, several summary points can be drawn.

First, self-employment rates increased over the 1981-to-2001 period among both Canadian-born and immigrants, then decreased slightly among both groups from 2001 to 2006. This finding is consistent with the trend observed in the Labour Force Survey (LFS) (LaRochelle-Côté 2010).[6] Among Canadian-born male workers aged 20 to 64, the self-employment rate increased from 9.4% to 11.5% between 1981 and 2006, while among immigrant men it increased from 13.1% to 16.8%. The increase in the self-employment rate was larger among women, rising from 3.4% to 6.9% among the Canadian-born and from 5.4% to 9.4% among immigrants. Nonetheless, women were less likely than men to be self-employed.

Further analysis shows that the rise in the self-employment rate among men from 1981 to 2006 illustrated in Table 1 can be attributed to two factors. First, the share of the employed labour force consisting of older workers increased.[7] Since older workers have higher self-employment rates than do younger workers, this exerted upward pressure on the overall self-employment rate. Second, the self-employment rate itself increased among older workers, rising from 12.7% to 16.1% among Canadian-born male workers aged 45 to 64 and from 8.1% to 8.7% among Canadian-born male workers aged 20 to 44. In sum, the increasing share of older male workers and the rising self-employment rate among older workers drove up the overall self-employment rates among men in Canada. In contrast, the self-employment rate increased among women of all ages.

A second summary point to be drawn from Table 1 is that immigrants have a higher self-employment rate than the Canadian-born. This holds for both men and women over the entire period from 1981 to 2006. However, recent immigrants—those who have been in Canada for five years or less—have tended to have a lower self-employment rate than the Canadian-born and than long-term immigrants. The extent to which this is due to differences in age, years of Canadian work experience, or other factors is addressed in a companion research paper (Abada *et al.* 2011).

While the self-employed rate among men aged 20 to 64 increased among both immigrants and the Canadian-born from 1981 to 2006, this upward trend was not observed when fathers in 1981 were compared with sons in 2006, at which times each group was aged 25 to 44 (Table 2). Indeed, the self-employment rate decreased by 1.7 percentage points between Canadian-born fathers and third-and-higher-generation sons and by 2 percentage points between immigrant fathers and second-generation sons (Table 2).

---

6. The self-employment rate estimated from the census tends to be lower than the self-employment rate estimated from the LFS. In the census, self-employed workers who have no work during the reference week and who do not report working any hours or being absent from work would be classified as "unemployed" or "not in the labour force." The same self-employed workers may be coded as "employed" if they attributed their absence to not having any work during the reference week. Some persons who are considered as paid workers in the census are considered as self-employed persons in the LFS, including those who work at jobs such as babysitting, cleaning for private households, or delivering newspapers.
7. For example, among Canadian-born male workers aged 20 to 64, the share of individuals who were aged 45 to 64 increased from 28% to 40% between 1981 and 2006.

Table 2

Intergenerational changes in self-employment rates, individuals aged 25 to 44

	Fathers in 1981	Sons in 2006	Mothers in 1981	Daughters in 2006
	percent			
Immigrant parents and 1.5 generation	11.3	12.5	5.4	6.9
Immigrant parents and second generation	14.3	12.3	5.9	6.8
Canadian-born parents and third-and-higher generations	11.5	9.8	4.7	7.0

Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

It was only among immigrant fathers and 1.5-generation sons that the rate increased—by 1.2 percentage points—over the 1981-to-2006 period. This increase was due primarily to the low self-employment rate among immigrant parents of the 1.5 generation as compared to the self-employment rate among immigrant parents of the second generation (a difference of 3 percentage points among men). Compared with immigrant fathers of the second generation, immigrant parents of the 1.5 generation are found to have landed in Canada at older ages and to have had fewer years of Canadian work experience (Table 5). Thus, less familiarity with the Canadian labour market, fewer established social networks, and more financial constraints may be the reasons for their lower self-employment rate relative to immigrant fathers of the second generation. Additional analysis shows that years of foreign work experience and years of Canadian work experience account for about two-thirds of the difference in self-employment rates between immigrant fathers of the 1.5 generation and immigrant fathers of the second generation (table available upon request).

Among women, daughters in all three groups have higher self-employment rates than their mothers. This intergenerational increase tends to be larger from Canadian-born mothers to their daughters than from immigrants mothers to their daughters. While Canadian-born mothers had a lower self-employment rate than immigrant mothers in 1981, there were only modest differences in the rates among their daughters in 2006.

4.2 Multivariate results on self-employment rates

These observed changes in the self-employment rate over generations may be related to changes in socio-demographic composition affecting both immigrants and the Canadian-born. The choice of self-employment is often associated with socio-demographic factors, including work experience, education, marital status, and the presence of children (e.g.: Apitzsch 2005; Borjas 1986; Li 2001). Some of these factors have changed significantly over the last several decades. On the basis of multivariate model estimates, this section examines the generational changes in self-employment rates observed when changes in socio-demographic factors are taken into account.

Since the choice of self-employment over paid-employment is influenced by individuals' socio-demographic characteristics, a probit model is constructed in order to control for parent–children differences in these factors. This model is estimated with pooled data of three groups of parents and the corresponding three groups of children, as follows:

$$P_i = \beta_1 * PA2 + \beta_2 * PA15 + \beta_3 * G3 + \beta_4 * G2 + \beta_5 * G15 + \beta_j X_i + \varepsilon_i$$

PA2, *PA15*, *G3*, *G2*, and *G15* are dummy variables representing, respectively, immigrant parents of the second generation, immigrant parents of the 1.5 generation, the third-and-higher generations, the second generation, and the 1.5 generation. The common reference group for these dummy variables is Canadian-born parents (as observed in the 1981 Census).

X_i represents socio-demographic characteristics, including education levels, years of potential work experience, marital status, mother tongue, number of children in the family, housing tenure, ethnic groups, and geographic region.[8] The literature shows that these factors tend to be significantly associated with the likelihood of self-employment (e.g.: Blanchflower 2000; Li 2001). Other factors that are potentially important with respect to the choosing of self-employment, such as motivation, entrepreneurial spirit, access to financial resources, and social networks, are not included in the Census. Separate probit models are run for men and women—one based on a pooled sample of fathers and sons, another based on a pooled sample of mothers and daughters.

To determine whether the children of immigrants are likelier or less likely than their parents to be self-employed, the paper assesses whether the differences $\beta_4 - \beta_1$ and $\beta_5 - \beta_2$ are statistically significant. The first term $(\beta_4 - \beta_1)$ is the generational change in the probability of being self-employed (when expressed as marginal effects) between members of the second generation and their parents, while the second term $(\beta_5 - \beta_2)$ is the generational change in the probability of being self-employed between members of the 1.5 generation and their parents.

To determine whether the children of immigrants are likelier or less likely than the children of Canadian-born parents to be self-employed, the paper assesses whether the differences of $(\beta_4 - \beta_3)$ and $\beta_5 - \beta_3$ are statistically significant. The term $\beta_4 - \beta_3$ is the difference in the probability of being self-employed (when expressed as marginal effects) between the second generation and the third-and-higher generations, while the term $\beta_5 - \beta_3$ is the difference in the probability of being self-employed between the 1.5 generation and the third-and-higher generations.

To determine whether the generational change in the self-employment rate from immigrant parents to their children is different from the change between Canadian-born parents and their children, the paper assesses whether the differences $\beta_4 - \beta_1 - \beta_3$ and $\beta_5 - \beta_2 - \beta_3$ are statistically significant. β_3 is the generational change in the probability of being self-employed from the Canadian-born parents to the third-and-higher generations. Thus, $\beta_4 - \beta_1 - \beta_3$ is the difference in the generational change from immigrant parents of the second generation to their children and the generational change from Canadian-born parents to the third-and-higher generations. Similarly, $\beta_5 - \beta_2 - \beta_3$ is the difference in the generational change from immigrant parents of the 1.5 generation to their children and the generational change from Canadian-born parents to the third-and-higher generations.

8. Educational levels comprise six categories: no high school certificate or diploma; high school certificate or diploma; non-university certificate or diploma; bachelor degree; graduate degree; and degree in medicine, dentistry, veterinary medicine, or optometry. Years of potential experience are estimated as "age minus years of schooling and 6." Marital status is coded as *married* (including common-law) vs. *other*. Mother tongue is coded as *English/French=0, other=1*. Housing tenure is coded as *owners* vs. *renters*. Ethnic/population groups are based on the combination of visible-minority status and ethnic ancestry variables. Visible-minority status is used to identify sub-groups within the visible-minority population, while ethnic ancestry is used to identify ethnic groups within the non-visible-minority population. The identified 15 groups are the following: Chinese, South Asian, Black, Filipino, Korean/Japanese, other visible minorities, British/French/Canadian, German, Italian, Ukrainian, Dutch, Polish, Jewish, Portuguese, other European origins. In the model, *British/French/Canadian* is used as the common reference group. The reason that British, French, and Canadian are combined is to maintain historical comparability. From the 1981 Census to the 2006 Census, the share of the population that reported its ethnic origin to be Canadian increased significantly. The majority of those reporting *Canadian* as their ethnic origin were those who reported themselves as British or French (Bonikowska and Hou 2010). Geographic regions are grouped into 13 categories: Montréal, Toronto, Vancouver, and the ten provinces (excluding these three largest metropolitan areas).

Table 3

Probit regressions on the likelihood of self-employment for parents and their children

	Fathers and sons		Mothers and daughters	
	marginal effect	robust standard error	marginal effect	robust standard error
Variables				
Parents-and-children group (reference: Canadian parents)				
Immigrant parents of second generation	0.011 ***	0.002	0.012 ***	0.002
Immigrant parents of 1.5 generation	-0.024 ***	0.002	-0.001	0.002
Third-and-higher generations	0.002 *	0.001	0.027 ***	0.001
Second generation	0.016 ***	0.002	0.033 ***	0.003
1.5 generation	0.029 ***	0.002	0.037 ***	0.003
Education (reference: high school diploma)				
No diploma/certificate	0.007 ***	0.001	0.000	0.001
Non-university diploma	0.003 **	0.001	0.010 ***	0.001
Bachelor degree	0.010 ***	0.001	0.008 ***	0.001
Degree in medicine	0.557 ***	0.007	0.454 ***	0.009
Graduate degree	0.010 ***	0.002	0.025 ***	0.002
Years of experience	0.009 ***	0.000	0.007 ***	0.000
Years of experience squared	-0.0002 ***	0.000	-0.0002 ***	0.000
Married (reference: other)	0.016 ***	0.001	0.015 ***	0.001
English/French mother tongue (reference: other)	-0.019 ***	0.002	-0.004 **	0.002
Number of children present	0.006 ***	0.000	0.006 ***	0.000
Homeowners (reference: renters)	0.028 ***	0.001	0.014 ***	0.001
Ethnic/population groups (reference: British/French)				
Chinese	-0.022 ***	0.003	0.002	0.002
South Asian	-0.013 ***	0.003	-0.016 ***	0.003
Black	-0.036 ***	0.003	-0.027 ***	0.002
Filipino	-0.046 ***	0.002	-0.020 ***	0.002
Korean/Japanese	0.043 ***	0.007	0.052 ***	0.007
Other visible minorities	0.046 ***	0.006	0.013 **	0.006
German	0.028 ***	0.002	0.010 ***	0.002
Italian	0.011 ***	0.002	-0.013 ***	0.002
Ukrainian	0.008 **	0.003	0.000	0.003
Dutch	0.035 ***	0.004	0.018 ***	0.004
Polish	0.003	0.004	-0.002	0.004
Jewish	0.167 ***	0.007	0.058 ***	0.006
Portuguese	-0.043 ***	0.003	-0.027 ***	0.002
Other European origins	0.023 ***	0.002	0.006 ***	0.001

	Fathers and sons	Mothers and daughters
Correlation coefficient		
Geographic location effects	included	included
Diagnostic statistics		
Number of observations	894,191	778,522
Pseudo R-squared	0.044	0.042

* p<0.05
** p<0.01
*** p<0.001
Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Results from the probit models are presented in Table 3. The numbers in the table are marginal effects (*dF/dX*) and show the difference in the probability of self-employment associated with a one-unit increase in an independent variable when the values of other variables are held at their means.

When the socio-demographic variables included in the model were considered, men and women with a university degree in medicine, dentistry, veterinary medicine, or optometry were found to have a much higher probability of self-employment than individuals with other levels of educational attainment. Years of potential work experience were positively associated with self-employment. Married individuals were likelier than others to be self-employed, as were individuals with children at home. Homeowners were likelier than renters to be self-employed. Individuals whose mother tongue was English or French tended to have lower self-employment rates than individuals with other mother tongues.[9] There were large variations in self-employment rates according to ethnic background/visible minority status. Multivariate results for generational differences in self-employment rates between men and women are discussed in turn.

For men, with respect to the first question posed at the outset—whether the children of immigrants are likelier or less likely than their parents to be self-employed—the multivariate results indicate that sons who are second-generation immigrants have a self-employment rate slightly higher (by 0.5 percentage points) than that of their immigrant fathers (this is the difference between the coefficients for second-generation sons and the coefficients for the immigrant fathers of the second generation). Similarly, third-and-higher-generation sons had essentially the same self-employment rate as their fathers. In contrast, the self-employment rate of sons of the 1.5 generation was 5.3-percentage-points higher than that of their fathers.

It should be noted that, in the descriptive results presented in Table 2, which do not take into account differences in socio-demographic characteristics, self-employment rates were about 1-percentage-point to 2-percentage-points lower among the second-generation sons and the third-and-higher-generation sons than among their fathers. This is not the case in the multivariate results, and the implication is that changes in socio-demographic characteristics over generations tended to reduce self-employment rates among sons in 2006. A further decomposition analysis shows that three factors accounted for much of this change: a decrease in the proportion of sons who were married; a decrease in the proportion of sons with children; and a decline in sons' years of potential work experience (as a result of having more years of schooling) (see Table 4).

With respect to the second question posed—whether children of immigrants are likelier or less likely than children of Canadian-born parents to be self-employed—sons who are second-generation immigrants have a significantly higher self-employment rate than sons in the third-and-high generations—a difference of 1.4 percentage points. Generational succession in self-employment rates from immigrant parents to the second generation is about the same as from Canadian-born parents to the third-and-higher generations. Hence, the higher self-employment rate among second-generation sons is due to their higher 'starting point'—that is, the higher self-employment rate among their fathers than among the fathers of third-and-higher-generation sons.

The answer to the third question posed—whether the generational change from immigrant parents to their children in the self-employment rate is different from the change from Canadian-born parents to their children—is addressed above. Again, the generational succession in self-employment is about the same from immigrant fathers to their second-generation sons as it is

9. A companion paper examines whether the effects of these socio-demographic variables vary by generational status (Abada *et al.* 2011).

from Canadian-born fathers to their sons. Sons in the 1.5 generation are again distinct, in that generational succession among this group is far higher than it is among the other two groups.

For women, with respect to the first question posed, in terms of self-employment rates, daughters in all three groups had a statistically higher self-employment rate than did their respective mothers—a difference of 2 percentage points to 4 percentage points. The increase from mothers to daughters was slightly smaller among the second generation than among the 1.5 generation and the third-and-higher generations. These group differences were due to a higher self-employment rate among the mothers of the second generation than among mothers of the other two groups.

With respect to the second question posed (regarding group differences among daughters), it is found that second-generation daughters and third-and-higher-generation daughters have similar self-employment rates; the 1.5 generation has a slightly higher rate than the other two groups. With respect to the third question, regarding generational changes in self-employment rates, the increase from mothers to daughters was found to be slightly smaller among the second-generation daughters than among the third-and-higher generations—a difference of about 0.5 percentage points. The inter-generational change was largest from immigrant mothers to 1.5-generation daughters.

Table 4

Decomposition of intergenerational changes in self-employment rates

	Men			Women		
	Canadian-born fathers to third-and-higher-generation sons	Immigrant fathers to second-generation sons	Immigrant fathers to 1.5-generation sons	Canadian-born mothers to third-and-higher-generation daughters	Immigrant mothers to second-generation daughters	Immigrant mothers to 1.5-generation daughters
	percentage points					
Observed changes	-1.7	-2	1.2	2.3	0.9	1.5
Adjusted changes	0.2	0.5	5.4	2.7	2.1	3.8
Difference between observed and adjusted changes	1.9	2.5	4.2	0.4	1.2	2.3
	percent					
Contribution to the above difference						
Number of children	31.1	19.8	18.8	59.8	44.8	37.2
Married	26.7	23.8	17.4	40.8	46.7	33.4
Years of experience	21.8	49.8	51.7	42.8	71.0	71.1
Mother tongue/ethnicity	8.6	4.5	11.9	8.9	-14.1	2.9
Educational levels	8.6	5.6	5.8	-56.3	-43.4	-35.3
Homeowners	9.9	-4.9	-2.9	7.0	-6.1	-6.4
Geographic location	-6.8	1.3	-2.7	-2.9	1.1	-2.8

Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

5 Discussion and conclusion

This study examines intergenerational changes in self-employment rates among immigrant parents and their children at the same age range but 25 years apart. The focus is on three questions: (1) Are children of immigrants likelier or less likely than immigrant parents to be self-employed?; (2) Are children of immigrant likelier or less likely than the third-and-higher generations to be self-employed?; (3) Is the generational change in the self-employment rate from immigrant parents to the children of immigrants different from the generational change from Canadian-born parents to their children?

The results suggest that the second-generation men (the Canadian-born male children of immigrants) had a lower self-employment rate in 2006 than did immigrant fathers in 1981. However, the two generations' self-employment rates were found to be about the same after the socio-demographic differences between them were taken into account. Compared with immigrant fathers at the same age, the second-generation men had fewer years of work experience, a lower marriage rate, and fewer children, and these three demographic factors account for most of the decline in the second-generation men's self-employment rate.

This intergenerational change in the self-employment rate and the associated demographic factors are not unique to the second generation; they are also evident among third-and-higher-generation men. When changes in socio-demographic factors are taken into account, generational succession in self-employment rates from immigrant parents to the second generation was about the same as from Canadian-born parents to the third-and-higher generations.

The second-generation men had a higher self-employment rate than the third-and-higher-generation men. This is consistent with the group difference between their fathers. Fathers of the second generation had a higher self-employment rate than fathers of the third-and-higher generations; this is correlated with the likelihood of self-employment among their children. Census data do not shed light on how or why this might occur, although researchers point to factors such as propensity to undertake risk, inheritance of parents' business assets, networks, and experience, and the importance of role modeling (Aldrich and Kim 2007; Andersson and Hammarstedt 2010).

The 1.5-generation men (foreign-born male children of immigrants) had a higher self-employment rate than did their fathers and had the highest self-employment rate of the three groups considered. This remained the case when socio-demographic characteristics were taken into account.

The 1.5-generation women, second-generation women, and third-and-higher-generation women in 2006 all had higher self-employment rates than their mothers did 25 years previously. This broad increase is consistent with the general trends in women's educational attainment, labour force participation, diversification in occupational structures, and earnings over recent decades (Goldin 2006; Kuhn and Schuetze 2001). The increase in self-employment from mothers to daughters was slightly smaller among the second generation than among the 1.5 generation and the third-and-higher generations.

Overall, the results of this study suggest that the intergenerational succession in self-employment rates is about the same from immigrant parents to the second generation as from Canadian-born parents to the third-and-higher generations. For both groups, the intergenerational transition is also affected by similar socio-demographic factors. Of course, the "starting point" is still important. With a similar intergenerational succession rate, a higher self-employment rate among immigrant parents than among Canadian-born parents leads to a higher self-employment rate among the second generation than among the third-and-higher generations, particularly for men.

6 Appendix

6.1 Intergenerational comparison of the characteristics of self-employed and paid workers

In addition to differences in the self-employment rate, there were also large differences in education, potential work experience, and earnings of self-employed and paid workers, both among parents by immigration status and among children by generational status (Table 5). This information is not readily available elsewhere and is provided here as supplementary material.

Immigrant fathers had higher educational attainment than did Canadian-born fathers, and this lead was passed on to their sons 25 years later, regardless of either's self-employment status. The gap in university completion rates between male children of immigrants (both the 1.5 generation and the second generation) and the third-and-higher-generation men in 2006 was about the same as or was larger than the gap between immigrant fathers and Canadian-born fathers in 1981 (Table 5, Chart 1, and Chart 2). About 29% of self-employed 1.5-generation and second-generation men obtained a university degree, compared with 20% of self-employed third-and-higher-generation men.

Young adult men in 2006 had fewer years of potential work experience than their fathers in the same age range had 25 years previously, a result related to rising educational levels and more years spent at school over generations. Paid workers tended to experience a larger decrease in years of potential work experience than the self-employed over generations. The decrease was particularly large from immigrant fathers to their sons. There was little change in the years of potential work experience among the self-employed from Canadian-born fathers to third-and-higher-generation sons.

While 1.5-generation men, second-generation men, and third-and-higher-generation men were better educated than their fathers, their average annual self-employment earnings were much lower than their fathers' (Table 5 and Chart 5). The third-and-higher-generation self-employed men aged 25 to 44 earned 21% less than their parents had at the same age some 25 years previously, even though both had similar years of potential work experience. The intergenerational decline in self-employment earnings was also large from immigrant fathers to 1.5-generation men, but was relatively small from immigrant fathers to second-generation men.

In contrast, the magnitude of the generational decline in paid-employment earnings was much smaller than that of the generational decline in self-employment earnings. The earnings of paid workers aged 25 to 44 declined by about 7% from Canadian-born fathers to their third-and-higher-generation sons and declined by 3% from immigrant fathers to their 1.5-generation sons (Table 5 and Chart 6). From immigrant fathers to their second-generation sons, the earnings of paid-employment workers increased by 6% over this period.

Previous Canadian and U.S. studies have observed the decline in earnings of young men in the paid labour market, and numerous explanations have been put forward to explain this decline (e.g.: Beaudry and Green 2000; Katz and Autor 1999). The much larger decline in self-employment earnings, however, is less well-known and likely reflects the changing nature of self-employment among young men (e.g., rising share of self-employed without paid help, and rising heterogeneity and more precarious jobs among the self-employed) (Arum and Mueller 2004; Baldwin and Chowhan 2003; Kuhn and Schuetze 2001).

Among women, the rise in educational attainment from mothers to daughters was much faster than that from fathers to sons (Table 5, Chart 3, and Chart 4). Regardless of immigration status and self-employment status, mothers had much lower university completion rates than fathers in 1981. The pattern was reversed 25 years later. Young women in 2006 surpassed young men by

a large margin in university completion rates. As is the case with their male counterparts, young women of immigrant parents have higher university completion rates than their third-and-higher-generation counterparts.

Daughters earned more than their mothers in both self-employment and the paid labour market (Table 5, Chart 7, and Chart 8); this result is very different from the generational changes in earnings observed among young men. This finding is consistent with the general trend of continuing increases in women's educational attainment, labour force participation, and earnings over the recent decades (Goldin 2006; Kuhn and Schuetze 2001). Nevertheless, the earnings rise in paid-employment was much more substantial than the rise in self-employment. As a result, the advantage of self-employment in average earnings relative to paid-employment among young women, as among young men, disappeared over the generations.

Table 5

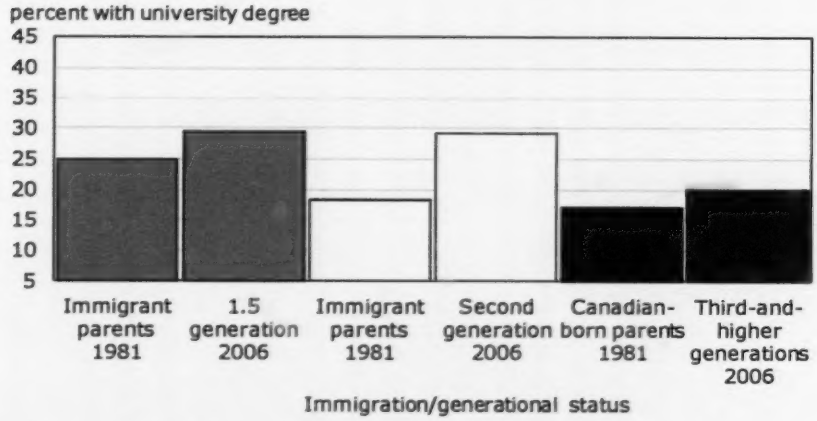
Intergenerational comparison of the characteristics of self-employed and paid workers, aged 25 to 44

	Fathers in 1981	Sons in 2006	Mothers in 1981	Daughters in 2006
Immigrant parents and 1.5 generation				
Among self-employed				
Percent with university degree	24.9	29.4	14.0	40.3
Average years of Canadian experience	8.7	15.7	8.7	15.3
Average years of foreign experience	10.4	...	10.1	...
Average annual earnings, in 2005 dollars	58,260	50,870	25,190	36,730
Among paid workers				
Percent with university degree	19.4	29.1	10.6	34.0
Average years of Canadian experience	7.6	13.8	8.3	13.6
Average years of foreign experience	11.2	...	11.1	...
Average annual earnings, in 2005 dollars	50,930	49,400	22,290	35,590
Immigrant parents and second generation				
Among self-employed				
Percent with university degree	18.4	29.2	17.6	40.2
Average years of Canadian experience	12.3	15.9	11.9	15.3
Average years of foreign experience	6.4	...	5.6	...
Average annual earnings, in 2005 dollars	56,110	54,810	27,660	36,470
Among paid workers				
Percent with university degree	20.4	31.0	13.7	39.8
Average years of Canadian experience	10.6	13.7	11.0	13.1
Average years of foreign experience	6.8	...	6.4	...
Average annual earnings, in 2005 dollars	51,080	54,240	22,790	38,170
Canadian-born parents and third-and-higher generations				
Among self-employed				
Percent with university degree	17.0	20.0	9.9	25.8
Average years of Canadian experience	17.3	17.2	16.6	16.3
Average annual earnings, in 2005 dollars	59,930	47,360	22,210	28,250
Among paid workers				
Percent with university degree	13.4	19.6	8.5	26.8
Average years of Canadian experience	16.3	15.1	15.9	14.7
Average annual earnings, in 2005 dollars	52,630	48,970	21,640	32,590

Note: Earnings are rounded to the nearest 10 dollars.
Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 1

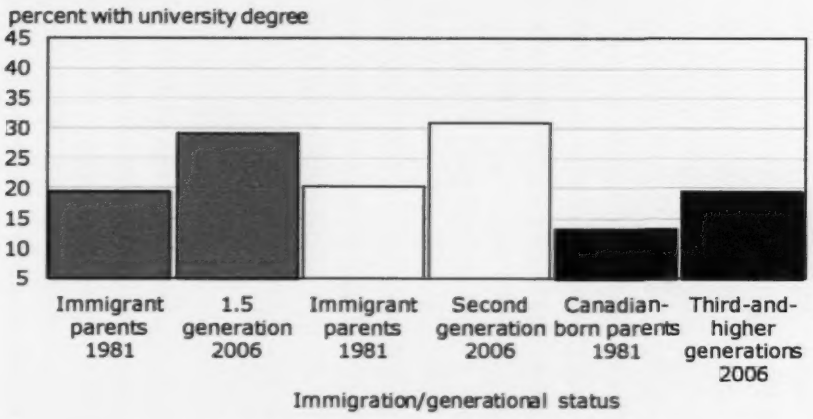
Intergenerational mobility in education by class of worker, workers aged 25 to 44, 1981 and 2006 — Self-employed men aged 25 to 44



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 2

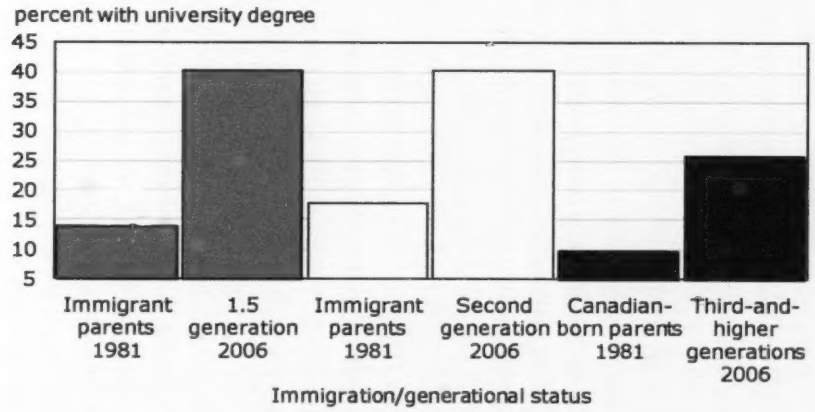
Intergenerational mobility in education by class of worker, workers aged 25 to 44, 1981 and 2006 — Male paid workers aged 25 to 44



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 3

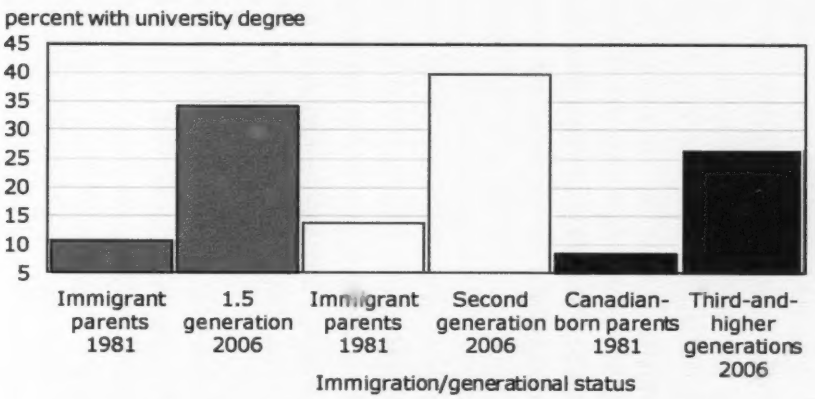
Intergenerational mobility in education by class of worker, workers aged 25 to 44, 1981 and 2006 — Self-employed women aged 25 to 44



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 4

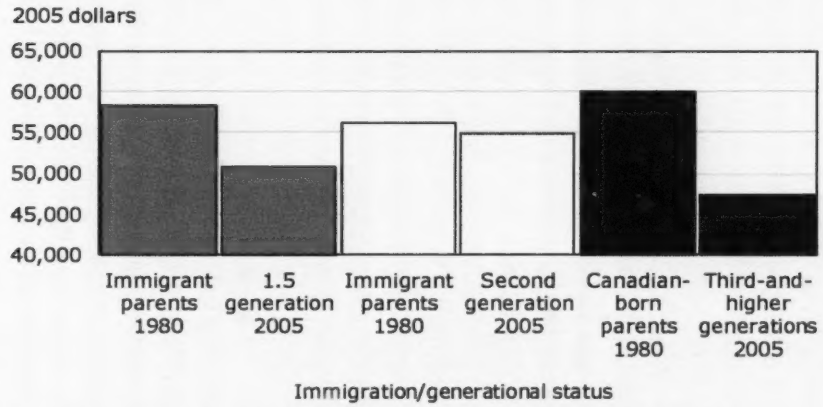
Intergenerational mobility in education by class of worker, workers aged 25 to 44, 1981 and 2006 — Female paid workers aged 25 to 44



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 5

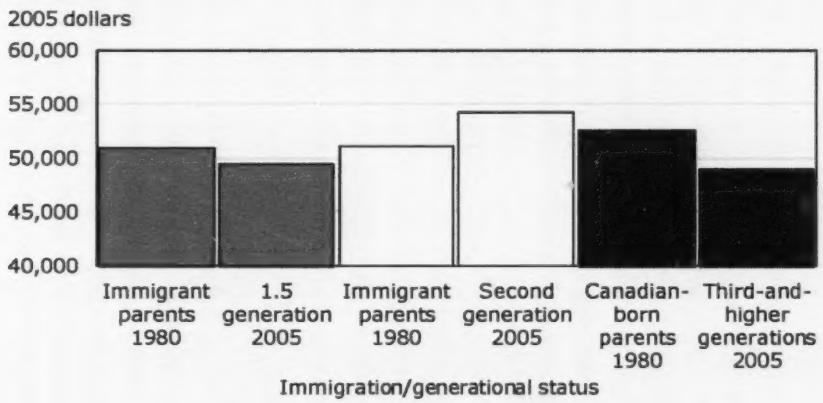
Intergenerational mobility in earnings by class of worker, workers aged 25 to 44, 1980 and 2005 — Earnings of self-employed men



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 6

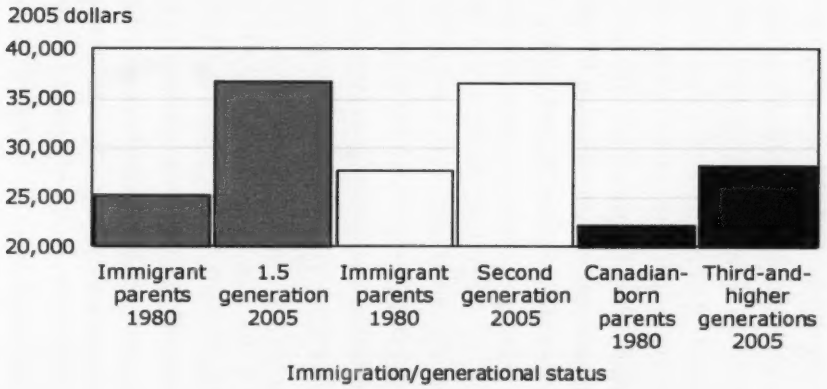
Intergenerational mobility in earnings by class of worker, workers aged 25 to 44, 1980 and 2005 — Earnings of male paid workers



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 7

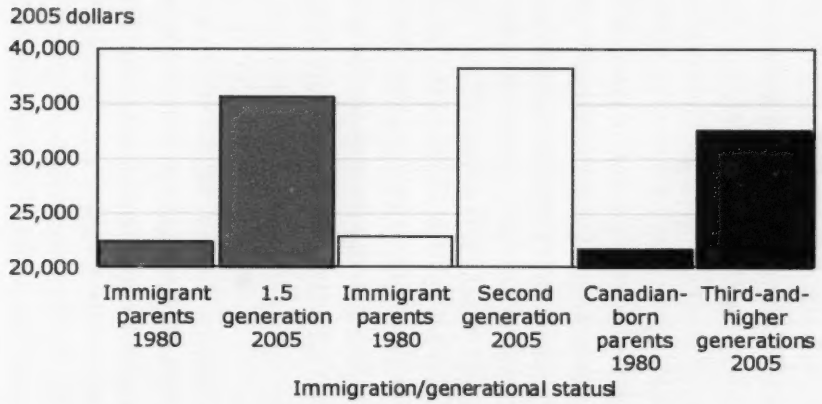
Intergenerational mobility in earnings by class of worker, workers aged 25 to 44, 1980 and 2005 — Earnings of self-employed women



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

Chart 8

Intergenerational mobility in earnings by class of worker, workers aged 25 to 44, 1980 and 2005 — Earnings of female paid workers



Sources: Statistics Canada, 1981 Census of Population and 2006 Census of Population.

6.2 Long-term changes in the characteristics of self-employed and paid workers by immigration status

Whereas Appendix subsection 6.1 discusses generational changes in the characteristics of self-employed and paid workers when both parents and children were young adults (aged 25 to 44), this section provides a broader context by looking at the long-term changes in the characteristics of self-employed and paid workers aged 20 to 64. From the descriptive statistics in Table 6, Table 7, and Table 8, several summary points can be drawn.

First, a consistent pattern observed over the period from 1981 to 2006 is that self-employed workers are more highly educated than paid workers, as reflected by the share with university degrees. The share of self-employed Canadian-born men and immigrant women who hold a university degree is 4-percentage-points to 6-percentage-points higher than the share of paid workers among these two groups who do so. This pattern also holds for immigrant men until 2006, when very little difference existed in the share holding university degrees between the self-employed and paid immigrant workers.

Second, another consistent pattern is that self-employed workers tend to have a greater number of years of potential work experience than do paid workers. Among the Canadian-born, self-employed workers on average have 4 to 5 more years of work experience than paid workers. The difference in years of potential work experience between immigrant self-employed and paid workers (about 1 to 2 years) is not as large as the difference between Canadian-born individuals belonging to those two groups.

Third, among immigrants, the difference in average earnings between self-employed and paid workers changed drastically over time.[10] For immigrant men, the earnings of self-employed workers were higher than those of paid workers in 1981 and 1991, but this pattern has been reversed since 2001.[11] By 2006, self-employed immigrant men earned 17% less than their counterparts in the paid labour market. Over the 25-year period, the earnings of immigrant male paid workers declined initially and became stable starting in 1991. In contrast, the earnings of immigrant self-employed men declined considerably between 1991 and 2006. As Table 7 and Table 8 show, this large change over time was experienced not only by recent immigrants who had been in the country for a short period of time. The lead in earnings from self-employment over paid-employment also disappeared for immigrants who had been in the country for over 10 years. A similar trend is observed among immigrant women.

Among Canadian-born men, self-employed workers on average have higher earnings than do paid workers, although the difference narrowed over the 25-year period. Over this time, the average earnings of the self-employed changed little, while earnings of paid workers rose by 12%. The difference in earnings between the self-employed and paid workers was small among Canadian-born women over the entire period.

As a result of the divergent trends in self-employment earnings between adult immigrants and the Canadian-born, there was a complete reversal in the relative earnings position of self-employed adult immigrants. While self-employed immigrant men on average had slightly higher earnings than self-employed Canadian-born men in 1981, they were earning 26% less by 2006. Among women, self-employed immigrants earned 19% more in 1981, but 14% less in 2006, than self-employed Canadian-born. These large changes over time among immigrants suggest that the results from the analyses on immigrant parents who were observed in 1981 should not be generalized to adult immigrant parents who have arrived since the 1980s. These results call

10. For both the self-employed and paid workers, earnings are the sum of net self-employment income and wages/salaries. In the census, the self-employed in incorporated businesses are instructed to report their employment income as wages/salaries.

11. It is well-known that any analysis of self-employment income should be interpreted with the utmost caution. On the one hand, a higher tendency of income underreporting among the self-employed would bias upwards any income disadvantages to self-employment relative to paid employment. On the basis of household expenditure patterns, Schuetze (2002*b*) estimated that the self-employed in Canada on average underreported their income by 11% to 23%, but observed that the degree of underreporting did not increase from the 1970s to 1990s. Dunbar and Fu (2008) showed that income underreporting is not confined to the self-employed, although the self-employed have a higher tendency to underreport income. On the other hand, employee fringe benefits (e.g., pension contributions and medical benefits) that are unavailable to the self-employed would exaggerate any relative income advantages to self-employment (Parker 2004). With census data, it is not possible to address with these potential biases. It is assumed such potential biases are constant over time, across skill levels (education and experience), and by generational group.

for a more careful examination of the changing nature of self-employment in general and of self-employment among immigrants in particular.[12]

The significant decline in the earnings of the self-employed relative to paid workers likely reflects the changing nature of self-employment in general. It has been noted that the nature of self-employment may have changed over the last few decades (Arum and Mueller 2004). Previous empirical studies have shown that much of the increase in self-employment was concentrated among self-employed workers without paid help, particularly in the 1990s (LaRochelle-Côté 2010; Lin *et al.* 1999). While the self-employed grew in number, the growth in their net earnings fell behind the growth in the earnings of paid workers in the 1990s (Baldwin and Chowhan 2003). Kuhn and Schuetze (2001) examined the quality of new self-employment as measured by earnings, full-time status, and the presence of employees for individuals who had been self-employed for less than one year. They found deterioration in all three aspects for men and improvement in all three aspects for women between the 1980s and the 1990s. They suggested that women's increased self-employment was a response to improved opportunities in the labour market and the increased attractiveness of self-employment to women. However, the increase in men's self-employment rates likely reflects the fact that wage-and-salary opportunities became less attractive and less abundant for them (Kuhn and Schuetze 2001).

12. Preliminary analysis suggests that the trends in self-employment earnings of recent immigrants and of the Canadian-born are likely affected by different factors. The industrial mix among the self-employed changed significantly for both groups between 1981 and 2001. For instance, for Canadian-born self-employed men, the industrial structure became less concentrated, and there was a large shift from primary industry to business services. The top three sectors in 1981 were primary (31%), trade (19%), and construction (15%). In 2006, the top three sectors were business services (22%), construction (20%), and primary (13%). Among recent immigrants, the top three industrial sectors were trade (23%), other services (19%), and construction (14%) in 1981, and business services (21%), transportation and communication (18%), and trade (16%) in 2006. However, shifts in industrial mix accounted for little of the changes in the gap of self-employment earnings between recent immigrants and the Canadian-born. Recent immigrants experienced a much larger decline in earnings within major industrial sectors. Among Canadian-born men, self-employment earnings rose among those in incorporated businesses and unincorporated businesses with paid help, but declined among those in unincorporated businesses without paid help. In contrast, self-employment earnings declined among recent immigrant men in all these types of self-employment.

Table 6

Changes in the characteristics of self-employed and paid workers aged 20 to 64 by immigration status, 1981 to 2006

	Canadian-born				Adult immigrants			
	1981	1991	2001	2006	1981	1991	2001	2006
Men								
Among self-employed								
Percent with university degree	16.2	20.6	22.6	23.8	17.8	25.6	32.3	36.4
Average years of Canadian experience	23.0	22.3	24.1	25.5	16.9	18.4	17.2	17.0
Average years of foreign experience	...	...	...	...	9.4	9.0	9.9	10.0
Average annual earnings, in 2005 dollars	54,961	54,496	53,309	55,017	55,785	54,861	46,499	40,667
Among paid workers								
Percent with university degree	11.8	14.4	17.0	18.1	16.6	20.9	29.9	36.6
Average years of Canadian experience	18.3	18.1	19.0	20.0	15.0	16.1	14.6	14.4
Average years of foreign experience	...	...	...	...	10.3	9.6	9.9	10.1
Average annual earnings, in 2005 dollars	44,028	43,246	46,583	49,123	49,687	47,721	47,005	47,548
Women								
Among self employed								
Percent with university degree	10.6	17.9	22.8	25.7	15.4	22.8	30.5	36.0
Average years of Canadian experience	21.4	20.5	22.3	23.8	15.4	16.9	16.3	16.5
Average years of foreign experience	...	...	...	...	9.4	8.8	9.8	9.9
Average annual earnings, in 2005 dollars	23,966	28,041	29,223	31,077	28,505	31,501	29,034	26,783
Among paid workers								
Percent with university degree	10.0	14.3	20.2	22.9	11.4	16.7	25.7	32.5
Average years of Canadian experience	16.5	17.2	18.5	19.7	14.0	15.2	14.6	14.6
Average years of foreign experience	...	...	...	...	10.0	9.4	9.4	9.3
Average annual earnings, in 2005 dollars	23,386	26,257	30,033	31,862	24,441	27,716	29,770	30,364

Note: The Canadian-born in this table include both the second generation (those born in Canada to immigrant parents) and the third-and-higher generations (those born to Canadian-born parents).

Sources: Statistics Canada, 1981 Census of Population, 1991 Census of Population, 2001 Census of Population, and 2006 Census of Population.

Table 7

Trends in self-employment rates and characteristics of self-employed and paid workers among male immigrants aged 20 to 64 by length of residence in Canada, 1981 to 2006

	1981	1991	2001	2006
In Canada 5 years or less				
Self-employment rate, as a percent	7.7	9.5	11.9	11.2
Among self-employed				
Percent with university degree	25.7	32.7	47.2	53.8
Average years of Canadian experience	2.8	2.4	2.7	2.7
Average years of foreign experience	14.0	15.3	16.1	14.9
Average annual earnings, in 2005 dollars	46,530	39,065	34,126	26,399
Among paid workers				
Percent with university degree	21.3	23.3	47.6	54.6
Average years of Canadian experience	2.5	2.2	2.5	2.5
Average years of foreign experience	11.7	12.9	13.1	12.8
Average annual earnings, in 2005 dollars	39,242	31,967	35,736	32,976
In Canada 6 to 10 years				
Self-employment rate, as a percent	10.5	13.0	14.9	15.0
Among self-employed				
Percent with university degree	29.6	32.1	33.0	47.0
Average years of Canadian experience	6.9	7.2	7.1	6.9
Average years of foreign experience	10.6	11.9	14.3	14.0
Average annual earnings, in 2005 dollars	54,259	49,052	36,470	29,553
Among paid workers				
Percent with university degree	22.7	25.0	30.2	49.3
Average years of Canadian experience	6.6	7.0	6.8	6.8
Average years of foreign experience	10.6	11.2	12.5	12.6
Average annual earnings, in 2005 dollars	45,094	41,492	39,447	44,143
In Canada 11 to 15 years				
Self-employment rate, as a percent	13.7	15.2	16.7	17.1
Among self-employed				
Percent with university degree	22.9	27.6	30.3	31.9
Average years of Canadian experience	11.9	11.9	11.5	12.0
Average years of foreign experience	9.3	10.1	11.3	12.3
Average annual earnings, in 2005 dollars	57,537	53,016	40,938	33,596
Among paid workers				
Percent with university degree	22.4	21.8	25.7	31.1
Average years of Canadian experience	11.8	11.7	11.4	11.9
Average years of foreign experience	10.3	10.2	11.2	11.9
Average annual earnings, in 2005 dollars	53,179	48,136	45,091	45,784
In Canada more than 15 years				
Self-employment rate, as a percent	15.1	17.0	19.9	19.7
Among self-employed				
Percent with university degree	11.4	23.0	29.4	30.3
Average years of Canadian experience	23.4	24.0	25.8	25.3
Average years of foreign experience	8.5	7.3	6.5	6.8
Average annual earnings, in 2005 dollars	56,598	58,667	54,525	49,910
Among paid workers				
Percent with university degree	10.1	19.0	24.2	25.0
Average years of Canadian experience	23.2	23.4	24.6	24.3
Average years of foreign experience	9.7	8.1	6.7	7.1
Average annual earnings, in 2005 dollars	52,724	53,863	56,115	56,420

Sources: Statistics Canada, 1981 Census of Population, 1991 Census of Population, 2001 Census of Population, and 2006 Census of Population.

Table 8

Trends in self-employment rates and characteristics of self-employed and paid workers among female immigrants aged 20 to 64 by length of residence in Canada, 1981 to 2006

	1981	1991	2001	2006
In Canada 5 years or less				
Self-employment rate, as a percent	3.7	4.6	8.0	6.6
Among self-employed				
Percent with university degree	20.9	28.5	41.9	49.0
Average years of Canadian experience	2.7	2.4	2.7	2.7
Average years of foreign experience	13.4	15.5	15.6	14.7
Average annual earnings, in 2005 dollars	21,153	23,964	20,976	18,297
Among paid workers				
Percent with university degree	16.2	19.4	39.7	50.0
Average years of Canadian experience	2.5	2.2	2.5	2.5
Average years of foreign experience	11.5	12.8	12.3	11.7
Average annual earnings, in 2005 dollars	19,241	21,075	22,024	20,664
In Canada 6 to 10 years				
Self-employment rate, as a percent	4.8	7.7	9.1	9.1
Among self-employed				
Percent with university degree	23.2	27.2	31.2	46.0
Average years of Canadian experience	6.7	7.2	7.0	6.9
Average years of foreign experience	11.0	11.6	13.8	13.5
Average annual earnings, in 2005 dollars	28,221	29,722	24,045	22,276
Among paid workers				
Percent with university degree	16.2	19.1	27.5	42.4
Average years of Canadian experience	6.7	7.0	6.8	6.8
Average years of foreign experience	10.6	11.5	12.0	11.5
Average annual earnings, in 2005 dollars	23,948	24,687	25,835	27,500
In Canada 11 to 15 years				
Self-employment rate, as a percent	5.9	8.6	9.7	9.3
Among self-employed				
Percent with university degree	19.2	26.0	31.7	34.3
Average years of Canadian experience	11.8	11.9	11.5	11.9
Average years of foreign experience	8.9	9.6	11.2	11.8
Average annual earnings, in 2005 dollars	29,077	32,139	29,505	24,966
Among paid workers				
Percent with university degree	13.9	17.9	22.9	28.6
Average years of Canadian experience	11.9	11.8	11.5	11.8
Average years of foreign experience	10.5	10.0	10.8	11.0
Average annual earnings, in 2005 dollars	26,987	28,076	29,879	29,977
In Canada more than 15 years				
Self-employment rate, as a percent	6.0	8.2	11.5	10.6
Among self-employed				
Percent with university degree	9.3	19.9	27.0	29.8
Average years of Canadian experience	23.2	23.1	25.0	25.0
Average years of foreign experience	8.2	6.8	6.4	6.7
Average annual earnings, in 2005 dollars	29,669	33,078	32,907	31,174
Among paid workers				
Percent with university degree	6.2	14.9	20.6	22.6
Average years of Canadian experience	22.6	22.4	24.3	24.2
Average years of foreign experience	9.1	7.6	6.3	6.6
Average annual earnings, in 2005 dollars	25,010	30,541	34,674	35,761

Sources: Statistics Canada, 1981 Census of Population, 1991 Census of Population, 2001 Census of Population, and 2006 Census of Population.

6.3 Trends in self-employment with alternative self-employment definitions

For the purpose of robustness check, the trends in self-employment rates and the characteristics of self-employed and paid workers are also examined on the basis of two alternative definitions. In the first alternative definition, self-employed workers include only those who are self-employed in unincorporated businesses, while those who are self-employed in incorporated business are treated as paid workers.[13] The second alternative definition defines self-employed workers as those whose net self-employment earnings account for more than half of their total employment earnings in the year prior to the census.[14] Since census respondents were instructed to report self-employment earnings only if they had worked in an unincorporated business, those who were self-employed in an incorporated business would report their earnings as wages/salaries and thus be treated as paid workers (they are paid by their own businesses) in the second alternative definition. Table 9 and Table 10 present self-employment rates and characteristics of self-employed and paid workers based on the two alternative approaches.

A comparison of the rates in Table 1 and Table 9 shows that self-employment rates are substantially higher when those who are self-employed in incorporated businesses are treated as self-employed workers. Immigrants are likelier to be affected by the difference in definitions since they tend to be likelier to be self-employed in incorporated businesses than the Canadian-born. Furthermore, at least for men, self-employed workers in incorporated businesses tend have higher educational attainment than their counterparts in unincorporated businesses. For both men and women, self-employed workers in incorporated businesses tend to have higher earnings than self-employed workers in unincorporated business. Although the levels are different, Table 1 and Table 9 show similar trends in the self-employment rate.

In Table 10, self-employment is based on reported self-employment earnings in the year prior to the census. This table shows a very similar trend in self-employment rates to that in Table 9 from 1981 to 2001. However, in the 2001-to-2006 period, the self-employment rate either declined or changed little in Table 1 and Table 9, but increased substantially in Table 10. The increase in Table 10 likely results from the changes in the way income data were collected in the census. In the 2006 Census, income data for the majority of the population were derived from their tax files. As a result, there were more individuals with a small income in the 2006 Census than in the 2001 Census. Therefore, this approach of defining self-employment status on the basis of the relative share of self-employment income in the total earnings is less compatible with earlier censuses than the approach based on self-reported self-employment status.

13. In Statistics Canada's census products as well as in the System of National Accounts, individuals self-employed in their incorporated business are considered paid workers; in the LFS, self-employed workers include working owners of incorporated business and unincorporated businesses, other self-employed, and unpaid family workers (Baldwin and Chowhan 2003; Statistics Canada 2010).
14. In the 2006 Census, among the self-employed workers defined by the class-of-work variable, 55% had the majority of their employment earnings in the year prior to the census from net self-employment income. The main reason for this is that self-employed workers in incorporated businesses were instructed to report their employment earnings as wages/salaries. Among self-employed workers in unincorporated businesses, 72% had the majority of their employment earnings from net self-employment income.

Table 9

Trends in self-employment rates (self-owned unincorporated businesses) and characteristics of self-employed and paid workers aged 20 to 64 by immigration status, 1981 to 2006

	Canadian-born				Adult immigrants			
	1981	1991	2001	2006	1981	1991	2001	2006
Men								
Self-employment rate, as a percent	5.8	6.1	7.5	6.8	7.6	8.2	10.2	9.5
Among self-employed								
Percent with university degree	17.8	20.8	21.9	22.7	19.8	26.2	31.3	34.4
Average years of Canadian experience	23.1	22.0	23.9	25.3	16.6	18.2	16.9	16.8
Average years of foreign experience	...	...	...	...	9.9	9.2	10.1	10.4
Average annual earnings, in 2005 dollars	51,910	50,196	47,272	45,525	53,613	53,552	42,292	33,584
Among paid workers								
Percent with university degree	11.8	14.7	17.3	18.5	16.5	21.2	30.2	36.8
Average years of Canadian experience	18.5	18.3	19.3	20.3	15.1	16.3	14.8	14.7
Average years of foreign experience	...	...	...	...	10.2	9.6	9.9	10.1
Average annual earnings, in 2005 dollars	44,626	44,004	47,398	50,111	50,211	48,367	47,445	47,732
Women								
Self-employment rate, as a percent	2.4	3.6	5.6	5.0	3.6	4.8	6.9	6.2
Among self-employed								
Percent with university degree	11.8	19.1	23.0	25.8	18.1	24.4	31.0	35.8
Average years of Canadian experience	21.0	19.7	21.8	23.3	15.4	16.7	16.1	16.2
Average years of foreign experience	...	...	...	...	9.6	8.8	10.0	10.1
Average annual earnings, in 2005 dollars	21,499	24,705	25,262	25,777	26,949	28,683	25,803	23,291
Among paid workers								
Percent with university degree	10.0	14.3	20.3	22.9	11.4	16.8	25.8	32.6
Average years of Canadian experience	16.5	17.3	18.7	19.8	14.1	15.3	14.6	14.7
Average years of foreign experience	...	...	...	...	10.0	9.4	9.4	9.3
Average annual earnings, in 2005 dollars	23,452	26,409	30,255	32,128	24,576	27,969	29,986	30,474

Note: The Canadian-born in this table include both the second generation (those born in Canada to immigrant parents) and the third-and-higher generations (those born to Canadian-born parents). Self-employed workers include only those who worked in self-owned unincorporated businesses.

Sources: Statistics Canada, 1981 Census of Population, 1991 Census of Population, 2001 Census of Population, and 2006 Census of Population.

Table 10

Trends in self-employment rates (based on net self-employment earnings share) and characteristics of self-employed and paid workers aged 20 to 64 by immigration status, 1981 to 2006

	Canadian-born				Adult immigrants			
	1981	1991	2001	2006	1981	1991	2001	2006
Men								
Self-employment rate, as a percent	5.9	6.0	7.3	8.3	7.5	7.9	10.3	13.8
Among self-employed								
Percent with university degree	19.3	24.2	23.2	24.6	21.6	29.7	33.4	35.0
Average years of Canadian experience	23.0	21.8	23.9	25.5	16.6	18.1	16.7	16.1
Average years of foreign experience	...	...	...	...	9.7	9.1	10.2	10.3
Average annual earnings, in 2005 dollars	54,511	55,089	48,916	47,181	56,733	57,117	43,420	32,019
Among paid workers								
Percent with university degree	11.7	14.5	17.2	18.2	16.3	20.9	30.0	36.8
Average years of Canadian experience	18.5	18.3	19.3	20.2	15.1	16.3	14.8	14.7
Average years of foreign experience	...	...	...	...	10.2	9.6	9.9	10.1
Average annual earnings, in 2005 dollars	44,463	43,705	47,269	50,035	49,975	48,081	47,320	48,695
Women								
Self-employment rate, as a percent	2.4	3.6	5.5	6.3	3.5	4.8	7.1	8.5
Among self-employed								
Percent with university degree	11.9	19.5	23.7	25.7	18.1	24.0	31.4	36.2
Average years of Canadian experience	21.4	20.0	21.9	23.7	15.7	16.6	16.0	16.1
Average years of foreign experience	...	...	...	...	9.6	8.9	9.8	9.9
Average annual earnings, in 2005 dollars	22,898	26,844	26,250	27,089	28,892	30,600	26,289	23,641
Among paid workers								
Percent with university degree	10.0	14.3	20.2	22.9	11.4	16.8	25.8	32.5
Average years of Canadian experience	16.5	17.2	18.7	19.7	14.1	15.3	14.6	14.7
Average years of foreign experience	...	...	...	...	10.0	9.4	9.4	9.3
Average annual earnings, in 2005 dollars	23,418	26,329	30,190	32,127	24,508	27,872	29,957	30,624

Note: The Canadian-born in this table include both the second generation (those born in Canada to immigrant parents) and the third-and-higher generations (those born to Canadian-born parents). Self-employed workers are defined as workers whose net self-employment earnings account for more than half of their total employment earnings in the year prior to the census.

Sources: Statistics Canada, 1981 Census of Population, 1991 Census of Population, 2001 Census of Population, and 2006 Census of Population.

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